

MICROLICIA BAHIENSIS (MELASTOMATACEAE: MICROLICIEAE):
LECTOTYPIFICATION, REDESCRIPTION, AND AFFINITIES

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ABSTRACT

Microlicia bahiensis, a rare species known only from the type that was collected over 100 years ago, is redescribed, illustrated, and lectotyped. It is compared to and mapped with three probable relatives, all of which are largely centered on the Chapada Diamantina in Bahia, Brazil, where they are mostly restricted to the mosaic of mountaintop “islands” dominated by campos rupestres (rocky grasslands). A diagnostic key is also included to help differentiate it from other glandular-pubescent Bahian species that appear to be its closest probable relatives.

RESUMO

Microlicia bahiensis, uma espécie conhecida apenas pelo material tipo coletado a mais de 100 anos, é redescrita, ilustrada e lectotipificada. Esse táxon é mapeado e comparado a outras três espécies provavelmente relacionadas, todas elas distribuídas ao redor da Chapada Diamantina na Bahia, Brasil, aonde são restritas ao mosaico de “ilhas” de topos de montanhas dominadas por campos rupestres. Uma chave diagnóstica é fornecida para facilitar a diferenciação de *M. bahiensis* de outras espécies baianas com indumento de tricomas glandulares, às quais *M. bahiensis* parece ser intimamente relacionada.

INTRODUCTION

In a paper describing new species of Melastomataceae based on early 20th century collections made by Philipp von Luetzelburg (1880–1948) mostly in Bahia, Brazil, Markgraf (1927) proposed five new species of *Microlicia* D. Don (*M. bahiensis* Markgr., *M. carrasci* Markgr., *M. luetzelburgii* Markgr., *M. lutea* Markgr., and *M. minima* Markgr.). With the exception of *M. bahiensis*, all of these species have been recollected several times since they were described over 90 years ago. *Microlicia bahiensis*, which came to our attention in the course of identifying material of this genus from Bahia, is still known only from the original collection. The lack of recent collections probably accounts for the fact that it was overlooked and omitted from a recent account of the Melastomataceae of Rio de Contas municipality in Bahia (Santos & Silva 2005). To highlight the rarity of *M. bahiensis* and encourage efforts devoted to its rediscovery, we here provide a detailed species description together with a diagnostic illustration and a dichotomous key to help differentiate it from other glandular-pubescent Bahian congeners deemed to be its closest relatives. In addition, we lectotypify it following ICN guidelines (McNeill et al. 2012) and recent suggestions for best practices outlined by McNeill (2014).

Microlicia bahiensis Markgr., Notizbl. Bot. Gart. Berlin-Dahlem 10(91):44. 1927. (**Fig. 1**). TYPE: BRAZIL: BAHIA: Rio de Contas, Casa de Pedra, 17 Jul 1914, P. von Luetzelburg 22 (LECTOTYPE, designated here: M-0027801!; ISOLECTOTYPES: M-0032641!, M-0165687!).

Shrub with diffuse or congested branching. Internodes of distal branches 2–7 mm long, quadrangular, the angles inconspicuously carinate, sparingly beset with ± sessile spherical glands and intermixed with a copious indumentum of smooth spreading trichomes 0.5–1 mm long intermixed with spreading gland-tipped trichomes mostly less than 0.25 mm long. Older branches brown, rounded-quadrate to terete, typically glabrous or with the indumentum persisting to varying degrees. Leaves not overlapping or crowded and overlapping (especially on distal branches), somewhat ascending and spaced or appearing ± imbricate when dry; petiole

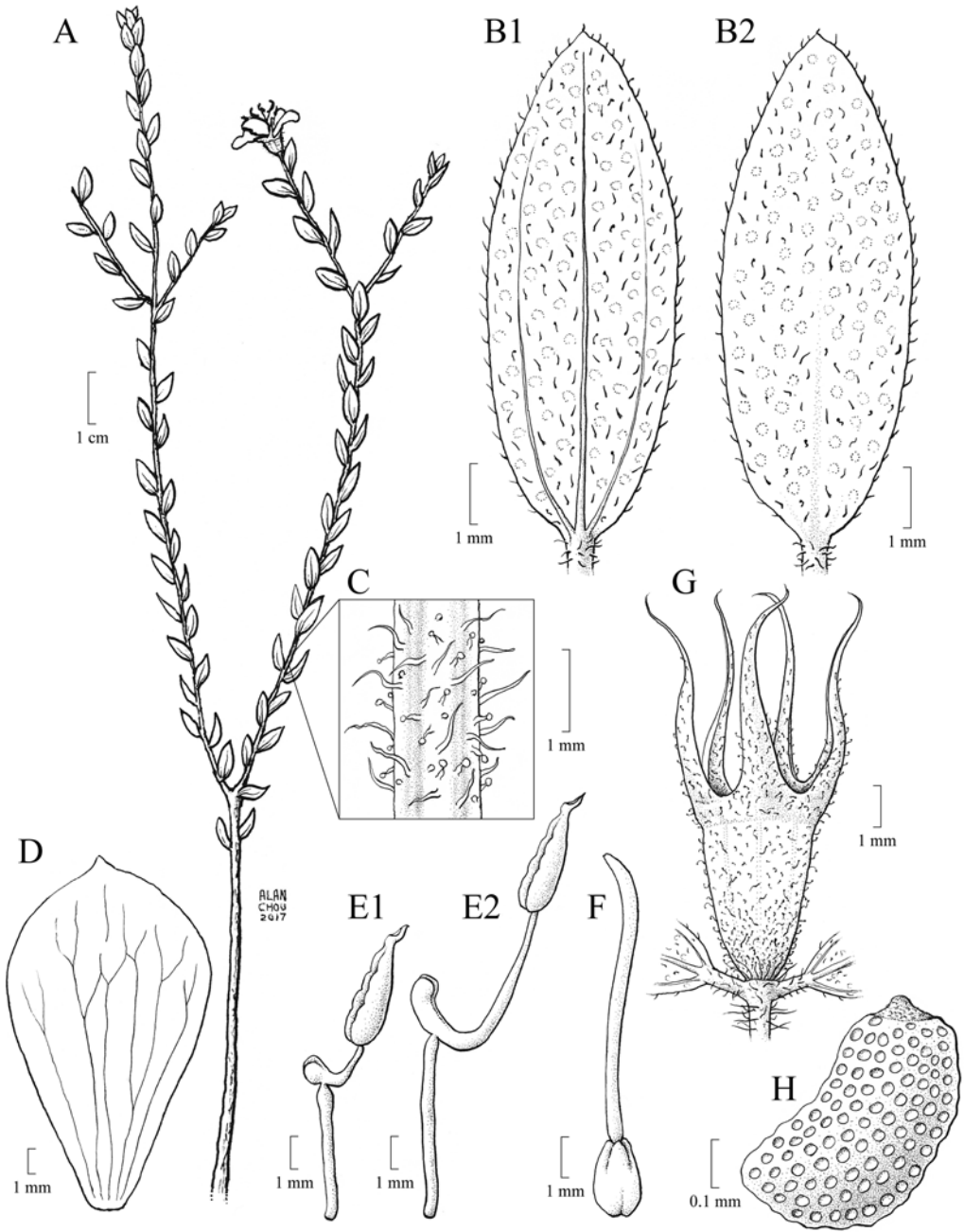


FIG. 1. *Microlicia bahiensis*. **A.** Habit. **B1.** Representative leaf (abaxial surface). **B2.** Representative leaf (adaxial surface). **C.** Enlargement of cauline internode. **D.** Petal (adaxial surface). **E1.** Small (antepetalous) stamen (profile view). **E2.** Large (antesepalous) stamen (profile view). **F.** Gynoecium. **G.** Hypanthium and calyx lobes at anthesis (petals and androecium removed). **H.** Seed. (A, C, D–H from *Luetzelburg 22*, M-0027801; B1 and B2 from *Luetzelburg 22*, M-0032641.)

0.5–1 mm long, copiously beset with spreading gland-tipped trichomes mostly less than 0.25 mm long on both surfaces; blade 6–10 × 1.5–5 mm, narrowly elliptic to narrowly ovate, base rounded to obtuse, 1-nerved to obscurely 3-nerved, apex acute with a smooth trichome mostly 0.25 mm long, margin entire, both foliar surfaces glandular-punctate and copiously intermixed with spreading eglandular smooth trichomes 0.25 mm long. Inflorescence a simple terminal 3-flowered dichasium typically becoming solitary and pseudoaxillary at maturity; flowers 5-merous, essentially sessile at anthesis with copiously glandular-hirtellous pedicels lengthening to 1 mm in fruit. Hypanthium (at anthesis) 3–4 mm long and 2.5–3.5 mm wide at the torus, oblong-campanulate, moderately to copiously covered with delicate spreading gland-tipped trichomes mostly less than 0.25 mm long; calyx tube ca. 0.25 mm long to nearly obsolete, calyx lobes 4.5–5 × 1 mm, narrowly triangular to linear-triangular, apex narrowly acute to acuminate and tipped with a smooth eglandular trichome 0.5 mm long, glabrous adaxially and copiously covered with indumentum like the hypanthium abaxially, margin entire. Petals 9–15 × 6–8 mm, reportedly purple (but probably magenta), obovate, apex acute, margin entire and ciliate, glabrous. Stamens 10, dimorphic, polysporangiate; large (antesepalous) stamens 5, filaments 5.5–6 mm long, thecae 3–3.5 mm long (including 0.5 mm rostrum), probably yellow, oblong-subulate with a ventrally inclined apical pore; connective prolonged 5 mm long, ventral appendage 2 mm long, truncate to shallowly lobed at the apex, probably yellow; small (antepetalous) stamens 5, filaments 5 mm long, thecae 2.5–3 mm long (including 0.5 mm long rostrum), probably yellow, oblong-subulate with a ventrally inclined apical pore, connective prolonged 1.5 mm, ventral appendage 0.75–1 mm long, distinctly bilobed apically and channeled on the upper side, yellow. Ovary ellipsoid, 2 × 1 mm, glabrous, superior, 3-locular; style 7–9 × 0.5 mm, terete, glabrous, somewhat declinate and gradually tapered toward the punctiform stigma. Capsule ellipsoid, 3 × 2 mm, dark brown, enveloped by the hypanthium with persistent calyx lobes that ultimately ruptures and flakes away with age, dehiscing from the somewhat retuse to slightly distended apex to the base. Seeds 0.47–0.60 × 0.33–0.39 mm, oblong-curved to subreniform, lateral and antiraphal symmetrical planes oblong-arcuate, highest point near the chalazal side, the raphal zone nearly circular and less than about 5% the length of the seed, the testa foveolate, beige to pale brown.

Phenology.—Flowering and fruiting in July.

Habitat and Distribution.—Known only from the municipality of Rio de Contas in Bahia, Brazil, where it was collected in “campo” (probably campo rupestre) at an unspecified elevation (Fig. 2).

Discussion.—Recent clarifications regarding rules governing the recognition of holotype specimens for names published before 1990 (McNeill 2014) necessitate the lectotypification of *Microlicia bahiensis*. In the protologue, Markgraf (1927) cited *Luetzelburg 22* as the type of this species, but he did not indicate whether that gathering was represented by a single or multiple specimens. A recent list and key to the species of *Microlicia* in Bahia (Woodgyer 2005) cites the type collection as “*Luetzelburg 22* (holotype: M!)”. The type gathering is represented by three mounted specimens at M, but there is no evidence that only one particular specimen was used in circumscribing the species. Consequently, these three specimens must all be considered syntypes according to Article 40 (Note 1) of the International Code of Nomenclature (McNeill 2012). The specimen marked as the holotype at M (M-0032641) for the Global Plants Initiative project in 2011 was in fact identified by Markgraf as *M. graveolens* DC. with no other notes or annotation indicating that he subsequently identified it as *M. bahiensis*. The two other sheets at M, M-0165687 and M-0027801, are marked as isotypes. Both of these specimens have annotations in Markgraf’s handwriting identifying them as *M. bahiensis*. Since M-0027801 is the most complete specimen (with flowers, capsules, and seeds) annotated and studied by Markgraf, we here designate it as the lectotype; the other two mounted sheets are isolectotypes.

In the protologue, Markgraf compared *Microlicia bahiensis* with *M. cordata* (Spreng.) Cham., a widespread species in the Brazilian states of Bahia, Minas Gerais, and São Paulo that does not appear to be closely related. These two species are superficially similar in having a copious indumentum of spreading short (0.5–1 mm long) trichomes on distal internodes, both surfaces of leaf blades, and hypanthia. *Microlicia cordata* also has the conspicuous golden glandular punctations on both leaf surfaces, but it lacks the combination of short-stalked glandular trichomes intermixed with simple trichomes on distal internodes. It also differs consistently

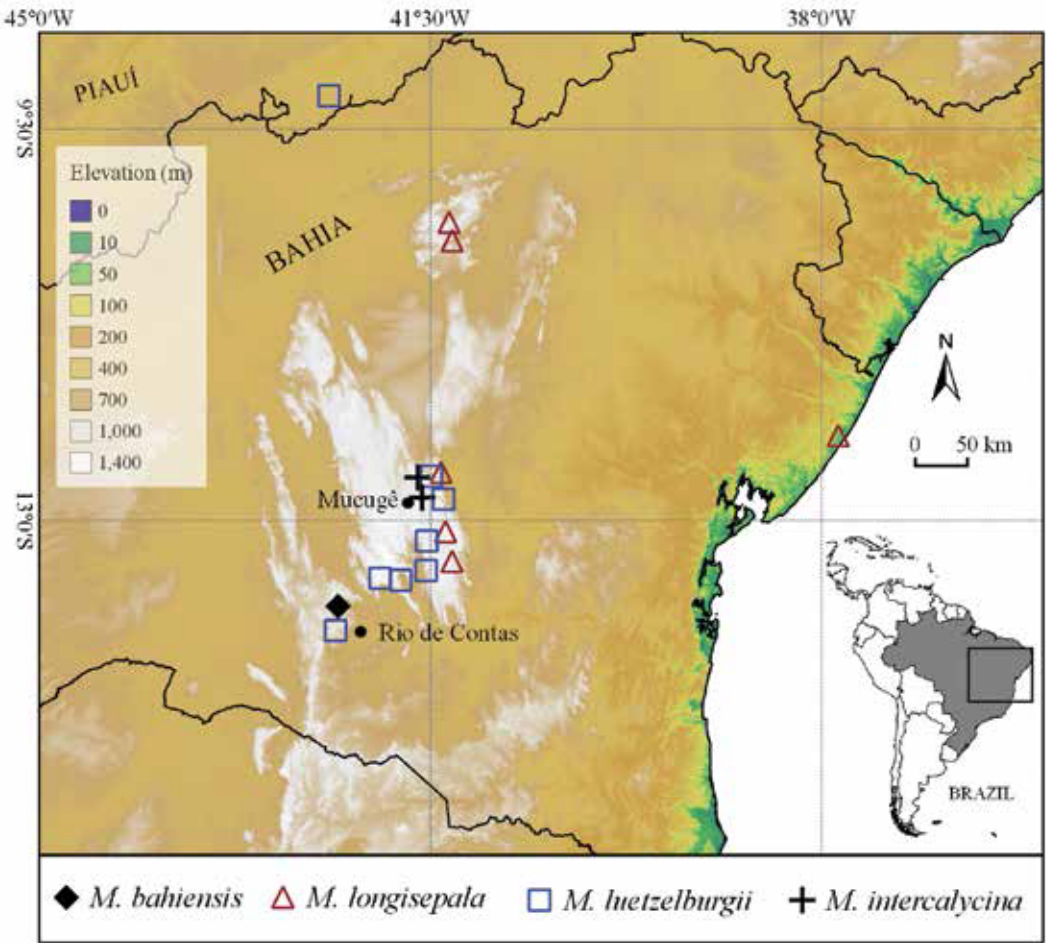


FIG. 2. Geographic distributions of *Microlicia bahiensis* and related species.

from *M. bahiensis* in having broadly ovate 3–5-nerved leaves with a sessile cordate base, flowers that are long-pedicellate at anthesis, smaller petals (4–9 × 3–8 mm), and tetrasporangiate anthers.

Among other Bahian species with a copious indumentum of spreading trichomes, *Microlicia bahiensis* appears to be most similar to *M. intercalycina* Pataro & R. Romero, *M. longisepala* Wurdack, and perhaps *M. luetzelburgii* Markgr. All of these species are largely restricted to campos rupestres (rocky grasslands) and centered on the Chapada Diamantina in Bahia. *Microlicia longisepala*, however, has recently been collected (*Fraga* 2609, HUEFS, NY, UPCB) in the restingas (coastal strand vegetation) of Bahia (Fig. 2). It appears to be the first species in the family known to occur only in campo rupestre and restinga. This exclusive “campos rupestres – restingas” disjunction is a rarer distribution pattern among angiosperms than previously thought (Alves et al. 2007). *Marcetia taxifolia* (A. St.-Hil.) DC. and *Comolia ovalifolia* (DC.) Triana, two other species of Melastomataceae that were previously reported to exhibit this kind of disjunctive distribution, actually occur in *campo rupestre*, *restinga*, and other biomes in Brazil (Alves et al. 2007).

Of these Bahian species of *Microlicia*, only *M. longisepala* and *M. bahiensis* share the magenta/pink petal color. *Microlicia bahiensis* can readily be distinguished from all of these predominantly Bahian species by the characters given in the following detailed key:

1. Petals yellow, yellow-orange, or white.
2. Distal internodes beset with sessile golden glands, sometimes moderately to sparsely intermixed with smooth spreading trichomes 0.5 mm or less in length; leaf blades elliptic, 5.5–9 × 1.5–3.5 mm, the base truncate to rounded, both surfaces covered with sessile golden glands and sometimes sparsely to moderately intermixed with smooth spreading trichomes 0.25–0.5 mm long, 1-nerved; pedicels ca. 0.5 mm long at anthesis; hypanthia beset with sessile golden glands and an intercalycine smooth spreading trichome or the golden glands intermixed with several smooth spreading trichomes ± restricted to the toral region; petals 8–11 × 5 mm, lemon yellow aging to orange; Bahia _____ **M. intercalycina**
2. Distal internodes beset with spreading gland-tipped trichomes of two sizes, the larger 2–3 mm long, the smaller up to 0.5 mm long; leaf blades ovate, (12–)20–25 × (4–)6–12 mm, the base cordiform to broadly rounded, both surfaces resinous-punctate intermixed with spreading gland-tipped trichomes of two lengths, the larger 1 mm long, the smaller ca. 0.25 mm long, 3-nerved; pedicels ca. 2 mm long at anthesis; hypanthia beset with spreading glandular trichomes of two lengths, the larger 1.5–2 mm long, the smaller less than 0.25 mm long; petals 12–17 × 6–9 mm, commonly white, sometimes yellow but never aging to orange; Bahia and Piauí _____ **M. luetzelburgii** (incl. *M. carrasci*)
1. Petals pink or magenta.
3. Distal internodes sparingly beset with ± sessile spherical glands intermixed with smooth spreading trichomes 0.5–1 mm long and spreading gland-tipped trichomes mostly less than 0.25 mm long; leaf blades narrowly elliptic to narrowly ovate, the base rounded to obtuse, 1-nerved to obscurely 3-nerved; flowers essentially sessile at anthesis; hypanthia moderately to copiously covered with spreading gland-tipped trichomes less than 0.25 mm long; large (antesealous) anthers probably yellow, the surface corrugated (polysporangiate); Bahia _____ **M. bahiensis**
3. Distal internodes moderately to sparsely beset with spherical sessile glands; leaf blades lanceolate, the base broadly rounded to cordiform, 3(–5)-nerved; pedicels 1–1.5 mm long at anthesis; hypanthia sparsely beset with smooth ± spreading trichomes 0.25–1 mm long intermixed with sessile glands; large (antesealous) anthers vinaceous, the surface smooth (tetrasporangiate); Bahia _____ **M. longisepala**

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